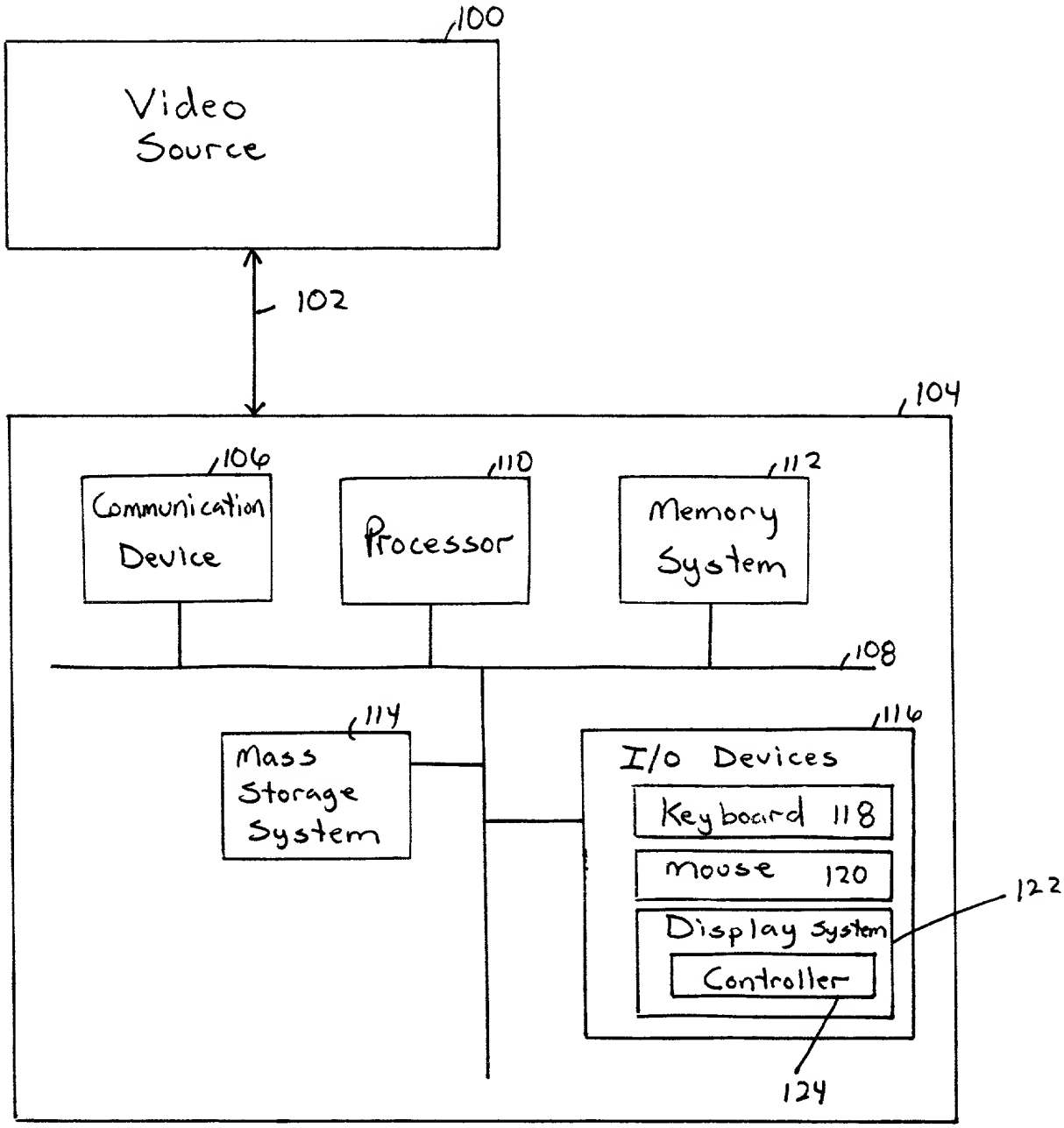
100
Video Source
102
104
106
Communication Device
110
Processor
112
Memory System
108
114
Mass Storage System
116
I/O Devices
Keyboard 118
Mouse 120
Display System
Controller
122
124

Figure 1

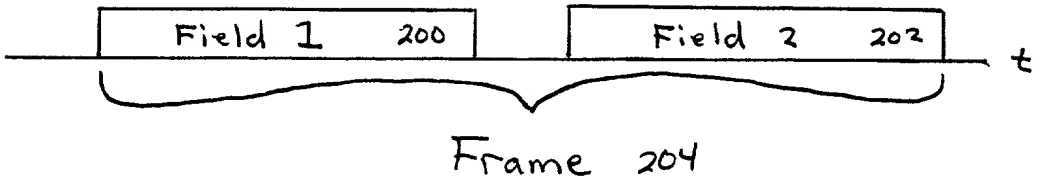

Figure 2

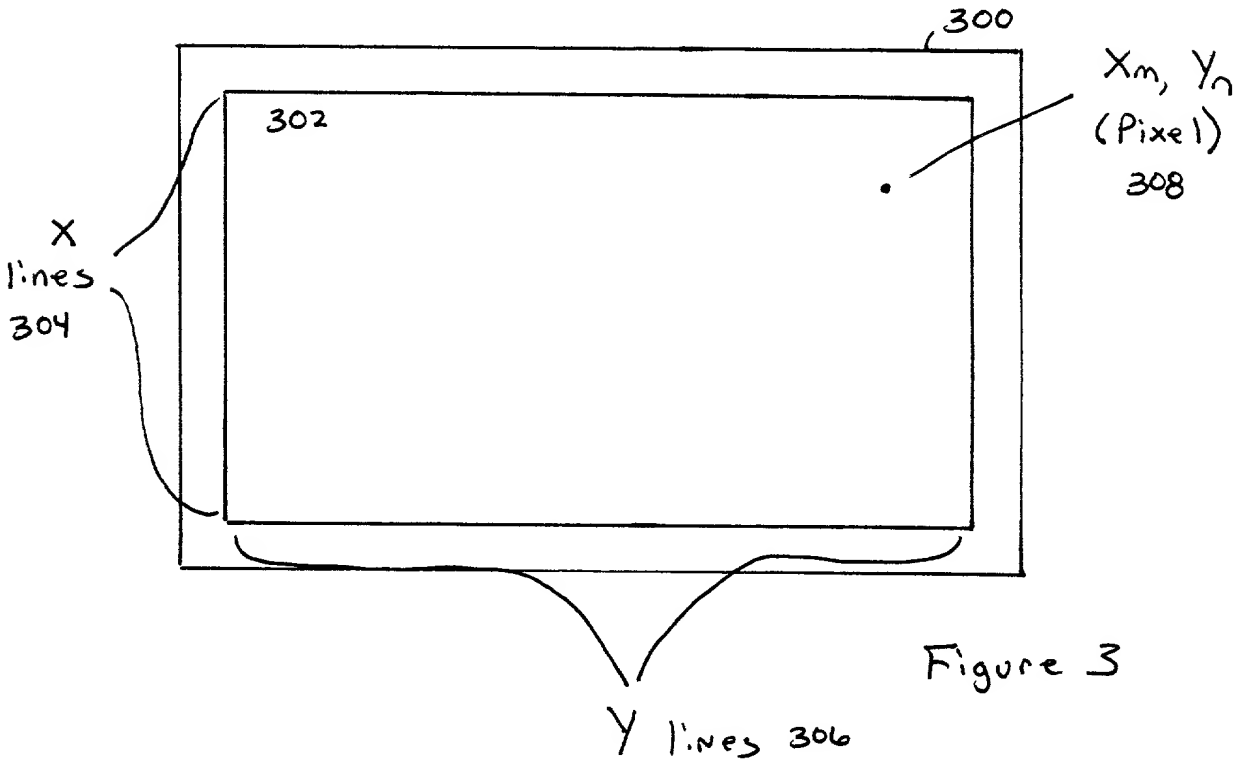

Figure 3

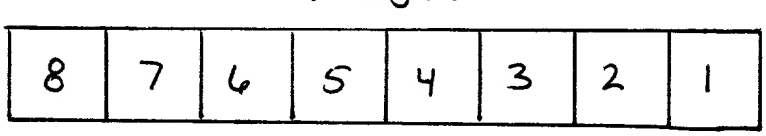

Figure 4

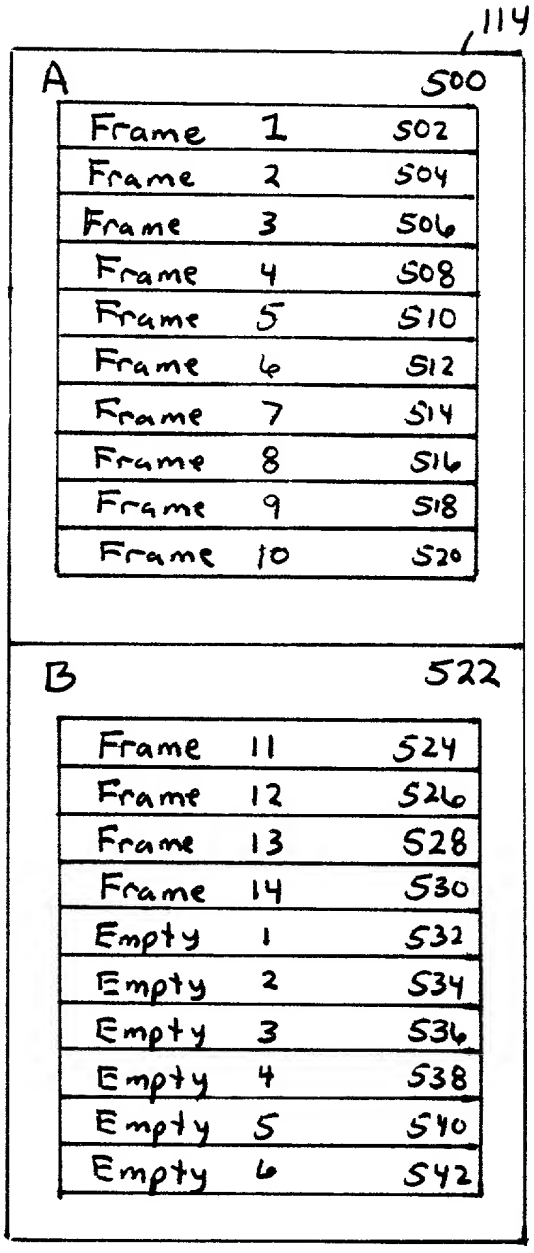
114
A
500
Frame 1 502
Frame 2 504
Frame 3 506
Frame 4 508
Frame 5 510
Frame 6 512
Frame 7 514
Frame 8 516
Frame 9 518
Frame 10 520
B
522
Frame 11 524
Frame 12 526
Frame 13 528
Frame 14 530
Empty 1 532
Empty 2 534
Empty 3 536
Empty 4 538
Empty 5 540
Empty 6 542

Figure 5

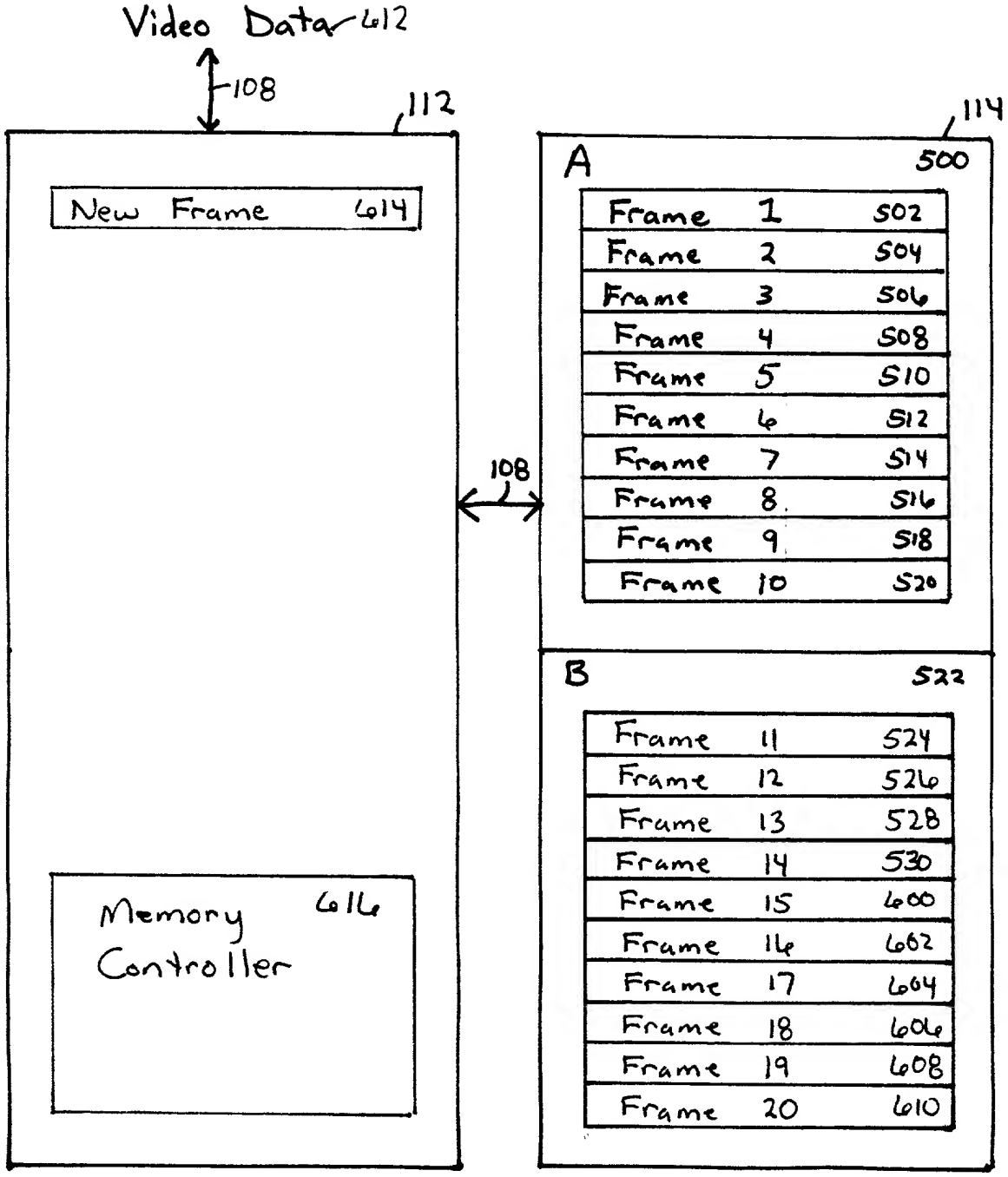
Video Data 612
108
112
New Frame 614
Memory Controller 616
108
114
A
500
Frame 1 502
Frame 2 504
Frame 3 506
Frame 4 508
Frame 5 510
Frame 6 512
Frame 7 514
Frame 8 516
Frame 9 518
Frame 10 520
B
522
Frame 11 524
Frame 12 526
Frame 13 528
Frame 14 530
Frame 15 600
Frame 16 602
Frame 17 604
Frame 18 606
Frame 19 608
Frame 20 610

Figure 6A

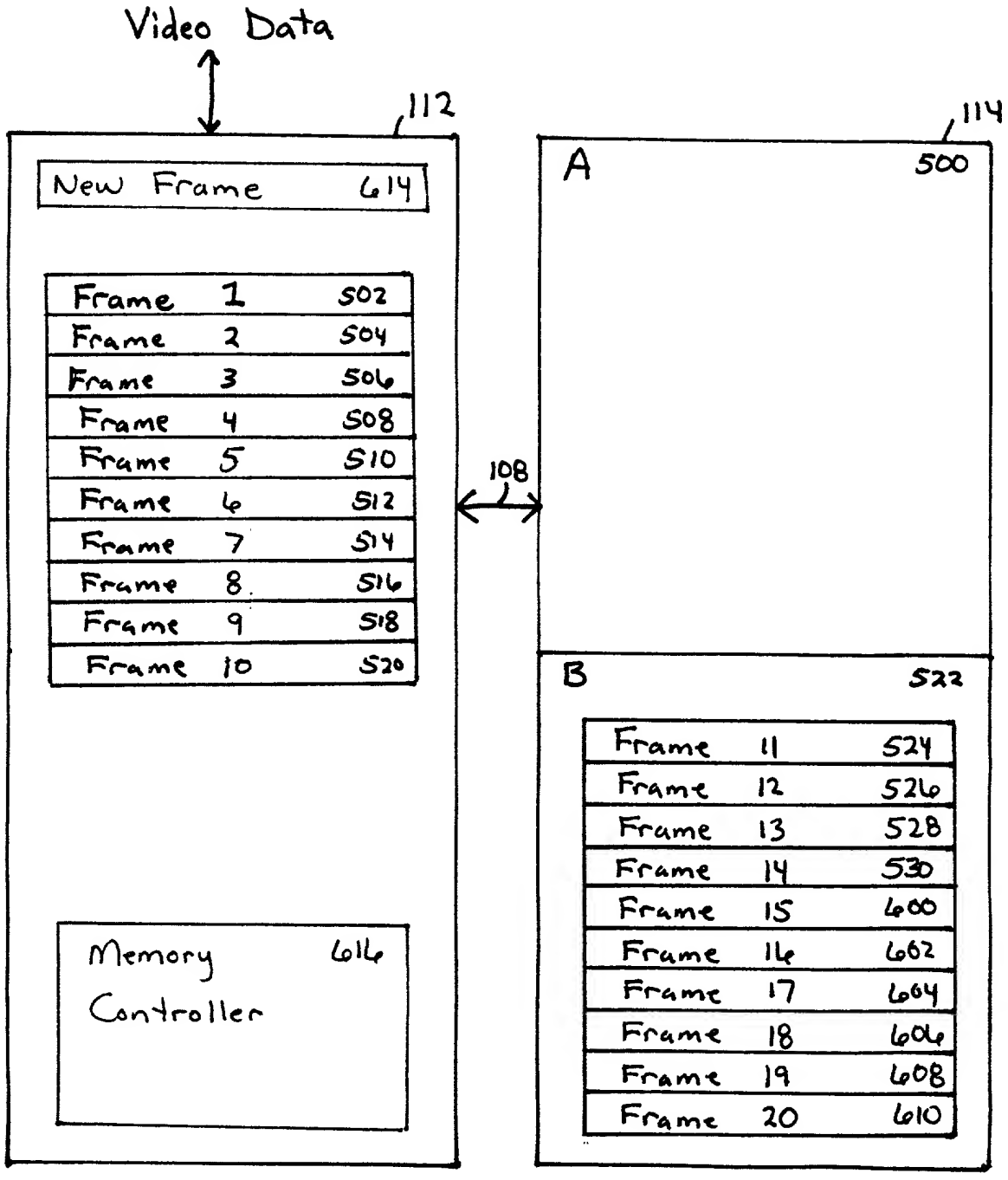
Video Data
112
New Frame 614
Frame 1 502
Frame 2 504
Frame 3 506
Frame 4 508
Frame 5 510
Frame 6 512
Frame 7 514
Frame 8 516
Frame 9 518
Frame 10 520
Memory Controller 616
108
114
A 500
B 522
Frame 11 524
Frame 12 526
Frame 13 528
Frame 14 530
Frame 15 600
Frame 16 602
Frame 17 604
Frame 18 606
Frame 19 608
Frame 20 610

Figure 6B

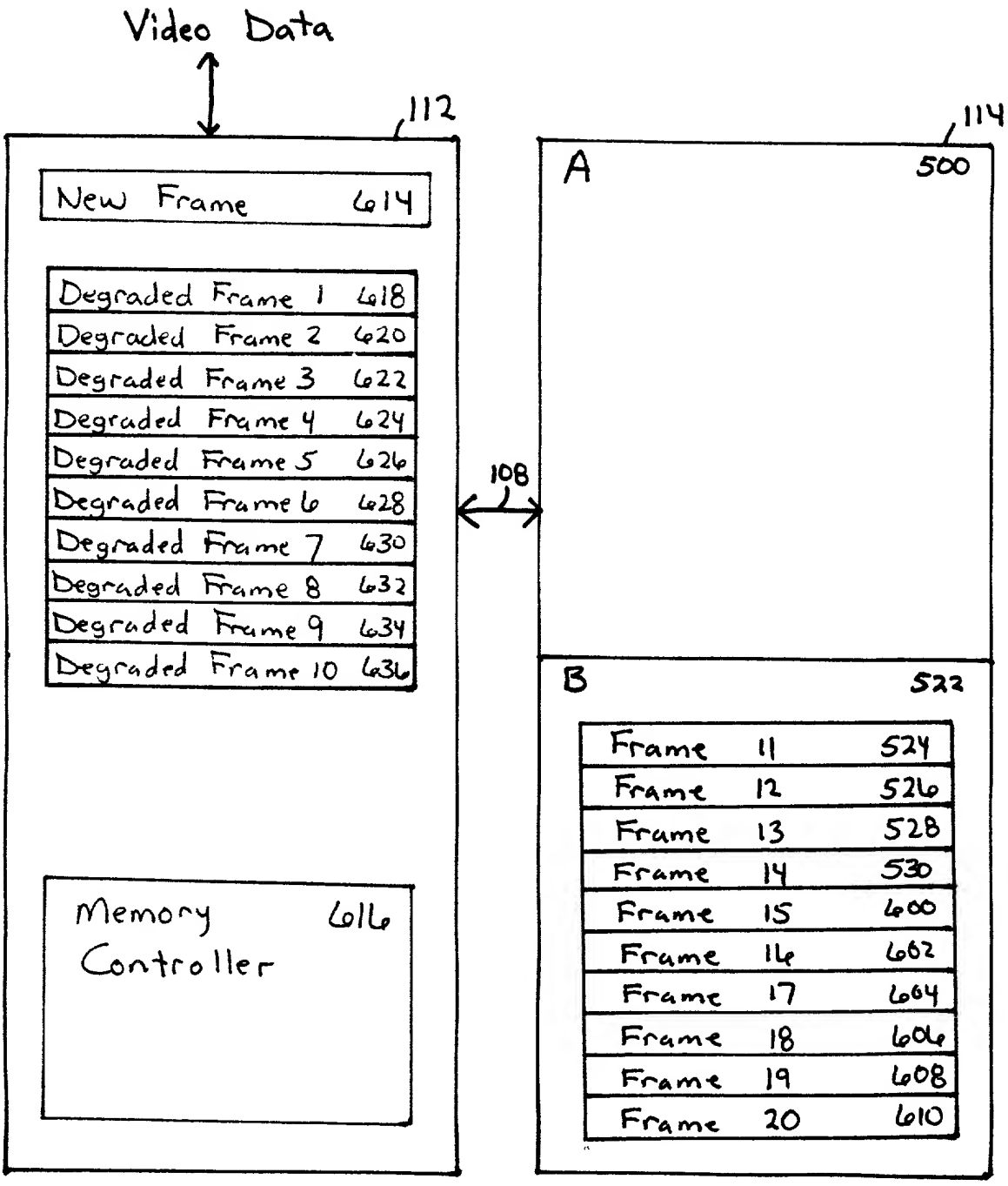
Video Data
112
New Frame 614
Degraded Frame 1 618
Degraded Frame 2 620
Degraded Frame 3 622
Degraded Frame 4 624
Degraded Frame 5 626
Degraded Frame 6 628
Degraded Frame 7 630
Degraded Frame 8 632
Degraded Frame 9 634
Degraded Frame 10 636
Memory Controller 616
108
114
A
500
B
522
Frame 11 524
Frame 12 526
Frame 13 528
Frame 14 530
Frame 15 600
Frame 16 602
Frame 17 604
Frame 18 606
Frame 19 608
Frame 20 610

Figure 6C

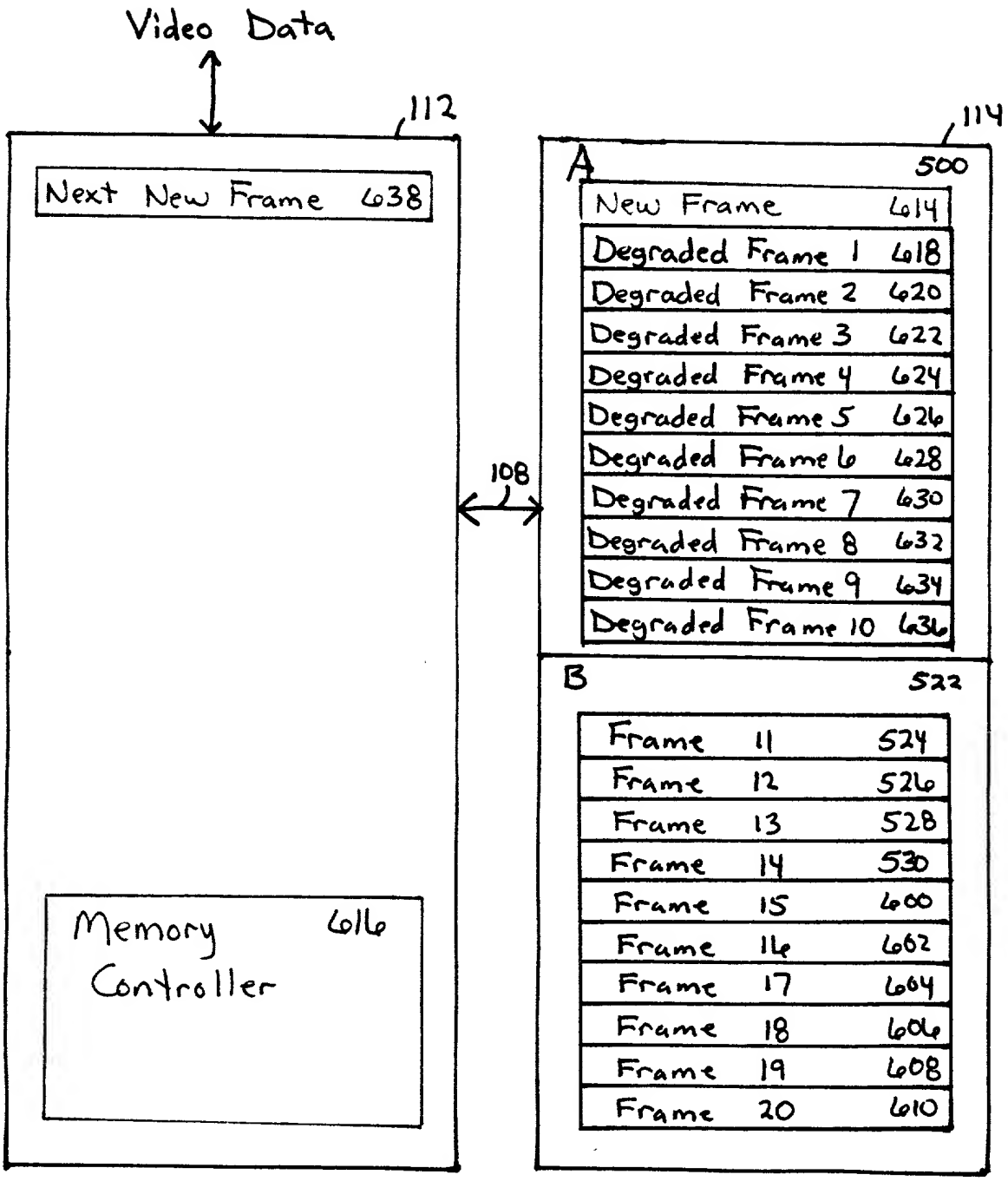
Video Data
112
Next New Frame 638
Memory Controller 616
108
114
A
500
New Frame 614
Degraded Frame 1 618
Degraded Frame 2 620
Degraded Frame 3 622
Degraded Frame 4 624
Degraded Frame 5 626
Degraded Frame 6 628
Degraded Frame 7 630
Degraded Frame 8 632
Degraded Frame 9 634
Degraded Frame 10 636
B
522
Frame 11 524
Frame 12 526
Frame 13 528
Frame 14 530
Frame 15 600
Frame 16 602
Frame 17 604
Frame 18 606
Frame 19 608
Frame 20 610

Figure 6D

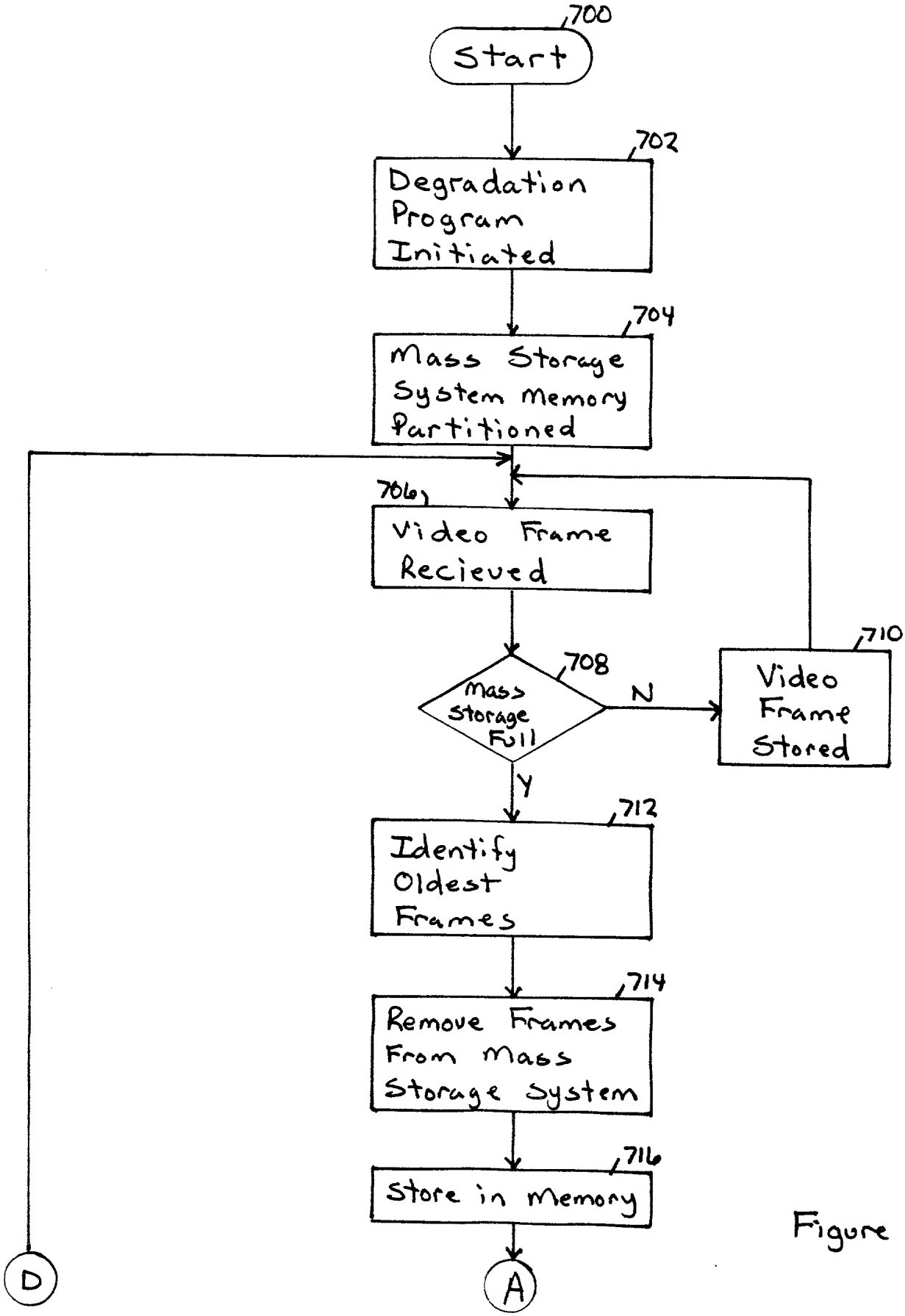
700
Start
702
Degradation Program Initiated
704
Mass Storage System Memory Partitioned
706
Video Frame Recieved
708
Mass Storage Full
N
710
Video Frame Stored
Y
712
Identify Oldest Frames
714
Remove Frames From Mass Storage System
716
Store in Memory
D
A

Figure 7A

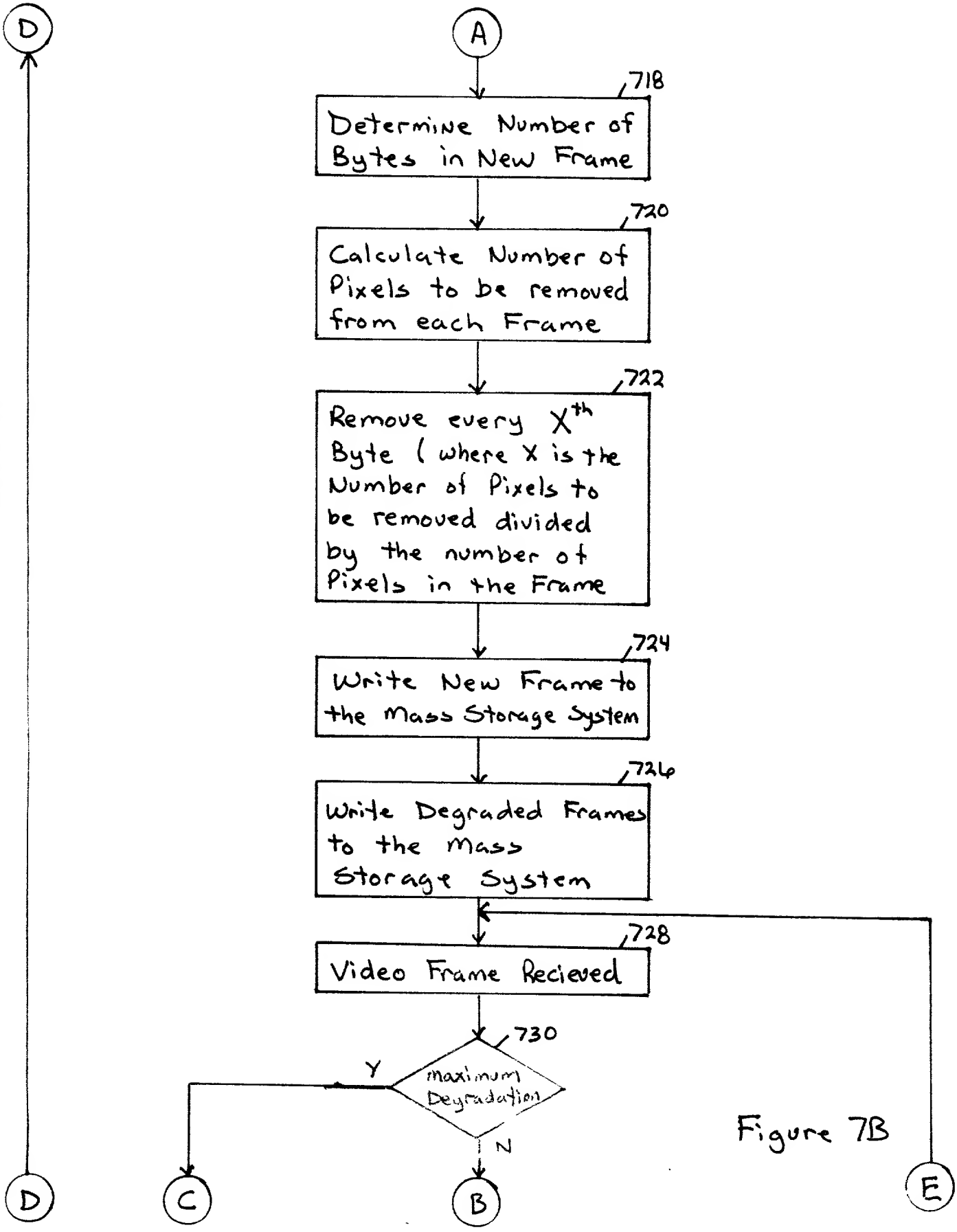
D
A
718
Determine Number of Bytes in New Frame
720
Calculate Number of Pixels to be removed from each Frame
722
Remove every X^th Byte (where X is the Number of Pixels to be removed divided by the number of Pixels in the Frame
724
Write New Frame to the Mass Storage System
726
Write Degraded Frames to the mass Storage System
728
Video Frame Recieved
730
maximum Degradation
Y
N
D
C
B
E

Figure 7B

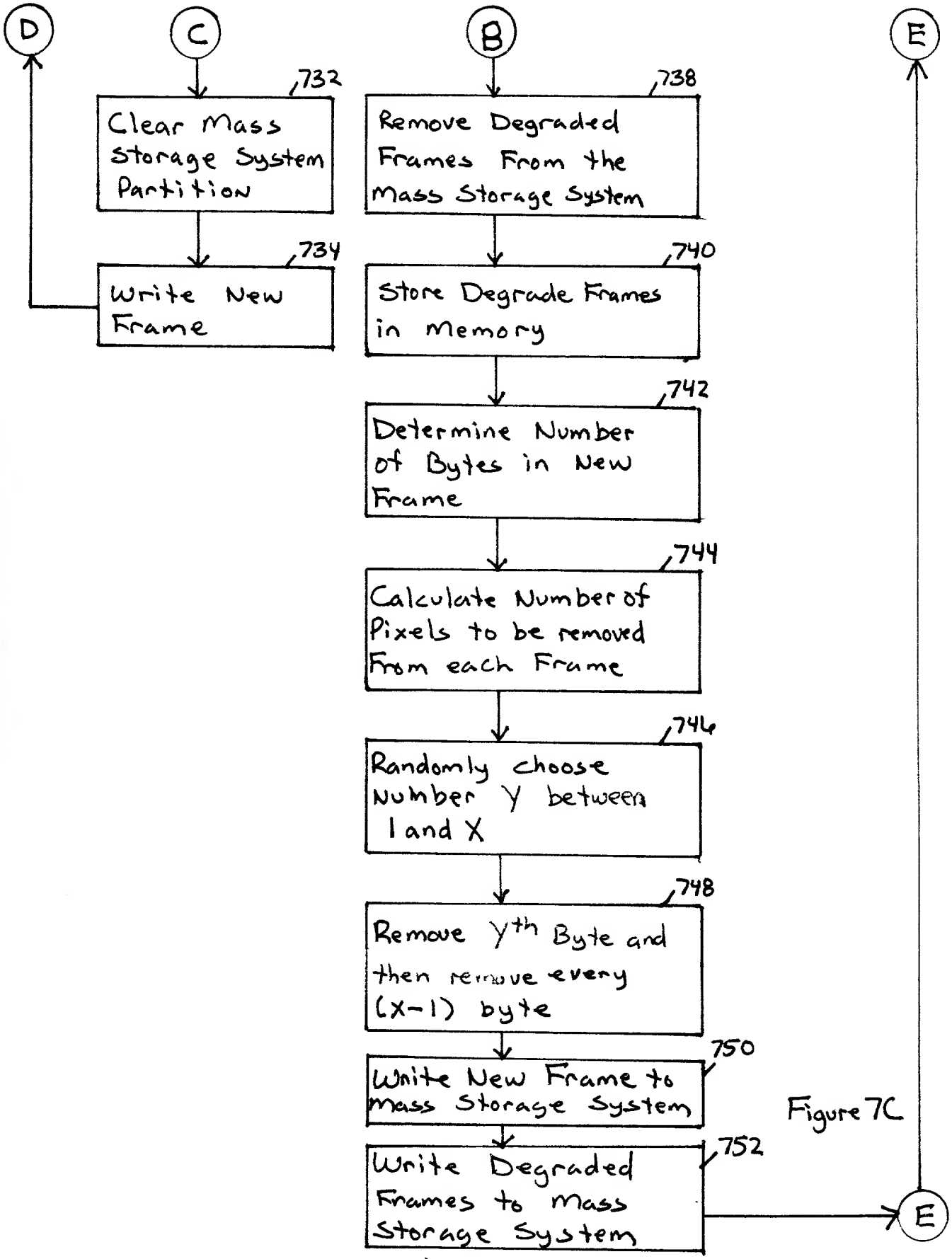
D
C
B
E
732
Clear Mass Storage System Partition
734
Write New Frame
738
Remove Degraded Frames From the Mass Storage System
740
Store Degrade Frames in Memory
742
Determine Number of Bytes in New Frame
744
Calculate Number of Pixels to be removed From each Frame
746
Randomly choose Number Y between 1 and X
748
Remove Yth Byte and then remove every (X-1) byte
750
Write New Frame to mass Storage System
752
Write Degraded Frames to mass Storage System
E

Figure 7C